

This listing of the claims replaces any and all prior versions and listings of claims in the application:

### **LISTING OF THE CLAIMS**

1. (currently amended) A composition comprising a biologically active compound and a transport moiety, wherein the transport moiety comprises a structure selected from the group consisting of  $(ZYZ)_nZ$ ,  $(ZY)_nZ$ ,  $(ZY)_mZ$ ,  $(ZYY)_nZ$  and  $(ZYYY)_nZ$ , wherein each Z is L-arginine or D-arginine, and each Y is independently an amino acid that does not comprise an amidino or guanidino moiety, and wherein n is an integer of from 2 to 10 and m is an integer from 3 to 10.

2. (original) The composition according to claim 1, wherein each Y is independently selected from the group consisting of alanine, cysteine, aspartic acid, glutamic acid, phenylalanine, glycine, histidine, isoleucine, lysine, leucine, methionine, asparagine, proline, glutamine, serine, threonine, valine, tryptophan, hydroxyproline, tyrosine,  $\gamma$ -amino butyric acid,  $\beta$ -alanine, sarcosine and  $\epsilon$ -amino caproic acid.

3. (withdrawn) The composition according to claim 1, wherein the transport moiety comprises the structure  $(ZYZ)_nZ$ , and wherein n is an integer ranging from 2 to 5.

4. (currently amended) The composition according to claim 1, wherein the transport moiety comprises the structure  $(ZY)_nZ$   $(ZY)_mZ$ , and wherein  $[[n\ m]]$  is an integer ranging from 4 to 10.

5. (withdrawn) The composition according to claim 1, wherein the transport moiety comprises the structure  $(ZYY)_nZ$ , and wherein n is an integer ranging from 4 to 10.

6. (withdrawn) The composition according to claim 1, wherein the transport moiety comprises the structure  $(ZYYY)_nZ$ , and wherein n is an integer ranging from 4 to 10.

7. (original) The composition according to claim 1, wherein the transport moiety is attached to the biologically active compound by a linking moiety to form a conjugate.

8. (withdrawn) The composition according to claim 1, wherein Y is a gene-encoded amino acid.

9. (original) The composition according to claim 1, wherein Y is an amino acid other than a gene-encoded amino acid.

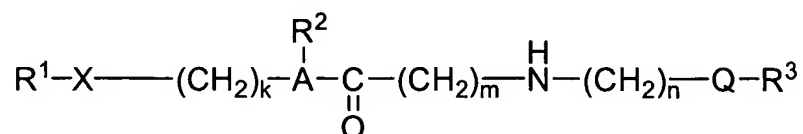
10. (withdrawn) The composition according to claim 3, wherein each Y is independently selected from the group consisting of glycine,  $\gamma$ -amino butyric acid,  $\beta$ -alanine and  $\epsilon$ -amino caproic acid, and n is 3 or 4.

11. (currently amended) The composition according to claim 4, wherein each Y is independently selected from the group consisting of glycine,  $\gamma$ -amino butyric acid,  $\beta$ -alanine and  $\epsilon$ -amino caproic acid, and  $[[n\ m]]$  is 6, 7 or 8.

12. (withdrawn) The composition according to claim 5, wherein each Y is independently selected from the group consisting of glycine,  $\gamma$ -amino butyric acid,  $\beta$ -alanine and  $\epsilon$ -amino caproic acid, and n is 6, 7 or 8.

13. (withdrawn; previously presented) The composition according to claim 6, wherein each Y is independently selected from the group consisting of glycine,  $\gamma$ -amino butyric acid,  $\beta$ -alanine and  $\epsilon$ -amino caproic acid, and n is 6, 7 or 8.

14. (withdrawn; previously presented) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

$R^1$  is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $R^1$  and  $R^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between  $R^1$  and  $R^3$ ;

A is N or CH;

$R^2$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

$R^3$  is the transport moiety;

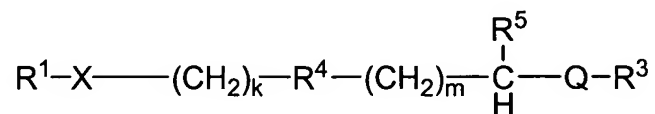
k and m are independently either 1 or 2; and

n is an integer of from 1 to 10.

15. (withdrawn; previously presented) The composition according to claim 14, wherein each of X and Q is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH-, -S-S-, -C(S)O-, -C(S)NH-, -NHC(O)NH-, -SO<sub>2</sub>NH-, -SONH-, phosphate, phosphonate and phosphinate.

16. (withdrawn; previously presented) The composition according to claim 14, wherein each of X and Q is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH- and -NHC(O)NH-.

17. (previously presented) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

$R^1$  is the biologically active compound ;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $R^1$  and  $R^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between R<sup>1</sup> and R<sup>3</sup>;

R<sup>3</sup> is the transport moiety;

R<sup>4</sup> is S, O, NR<sup>6</sup> or CR<sup>7</sup>R<sup>8</sup>;

R<sup>5</sup> is OH, SH, NHR<sup>6</sup>, or -CONH<sub>2</sub>;

R<sup>6</sup> is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

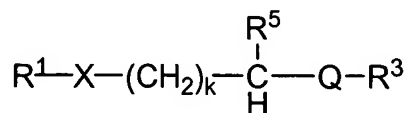
R<sup>7</sup> and R<sup>8</sup> are independently hydrogen, alkyl or arylalkyl; and

k and m are independently either 1 or 2.

18. (previously presented) The composition according to claim 17 wherein each of X and Q is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH-, -S-S-, -C(S)O-, -C(S)NH-, -NHC(O)NH-, -SO<sub>2</sub>NH-, -SONH-, phosphate, phosphonate and phosphinate.

19. (previously presented) The composition according to claim 17, wherein each of X and Q is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH- and -NHC(O)NH-.

20. (withdrawn; previously presented) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

R<sup>1</sup> is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R<sup>1</sup> and R<sup>3</sup>;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between R<sup>1</sup> and R<sup>3</sup>;

R<sup>3</sup> is the transport moiety;

$R^5$  is H, OH, SH,  $NHR^6$ , or  $-CONH_2$ ;

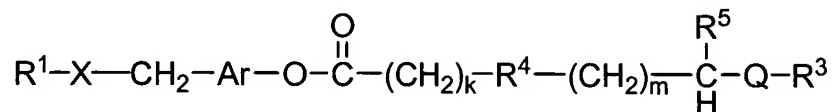
$R^6$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl; and

k is 1 or 2.

21. (withdrawn; previously presented) The composition according to claim 20, wherein each of X and Q is independently selected from the group consisting of  $-C(O)O-$ ,  $-O-C(O)-$ ,  $-C(O)NH-$ ,  $-NH-C(O)-$ ,  $-OC(O)NH-$ ,  $-S-S-$ ,  $-C(S)O-$ ,  $-C(S)NH-$ ,  $-NHC(O)NH-$ ,  $-SO_2NH-$ ,  $-SONH-$ , phosphate, phosphonate and phosphinate.

22. (withdrawn; previously presented) The composition according to claim 20, wherein each of X and Q is independently selected from the group consisting of  $-C(O)O-$ ,  $-O-C(O)-$ ,  $-C(O)NH-$ ,  $-NH-C(O)-$ ,  $-OC(O)NH-$  and  $-NHC(O)NH-$ .

23. (withdrawn; previously presented) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

$R^1$  is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $R^1$  and  $R^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between  $R^1$  and  $R^3$ ;

Ar is a substituted or unsubstituted aryl group, wherein the methylene and oxygen substituents are either *ortho* or *para* to one another;

$R^3$  is the transport moiety;

$R^4$  is S, O,  $NR^6$  or  $CR^7R^8$ ;

$R^5$  is H, OH, SH,  $CONHR^6$  or  $NHR^6$ ;  
 $R^6$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;  
 $R^7$  and  $R^8$  are independently hydrogen or alkyl; and,  
k and m are independently either 1 or 2.

24. (withdrawn; previously presented) The composition according to claim 23, wherein each of X and Q is independently selected from the group consisting of  $-C(O)O-$ ,  $-O-C(O)-$ ,  $-C(O)NH-$ ,  $-NH-C(O)-$ ,  $-OC(O)NH-$ ,  $-S-S-$ ,  $-C(S)O-$ ,  $-C(S)NH-$ ,  $-NHC(O)NH-$ ,  $-SO_2NH-$ ,  $-SONH-$ , phosphate, phosphonate and phosphinate.

25. (withdrawn; previously presented) The composition according to claim 23, wherein each of X and Q is independently selected from the group consisting of  $-C(O)O-$ ,  $-O-C(O)-$ ,  $-C(O)NH-$ ,  $-NH-C(O)-$ ,  $-OC(O)NH-$  and  $-NHC(O)NH-$ .

26. (withdrawn; previously presented) The composition according to claim 16, wherein A is N,  $R^2$  is benzyl, k, m and n are 1, and X is  $-OC(O)-$ .

27. (previously presented) The composition according to claim 19, wherein  $R^4$  is S,  $R^5$  is  $NHR^6$ ,  $R^6$  is hydrogen, methyl, allyl, butyl or phenyl, k and m are 1 and X is  $-OC(O)-$ .

28. (withdrawn; previously presented) The composition according to claim 22, wherein  $R^5$  is  $NHR^6$ ,  $R^6$  is hydrogen, methyl, allyl, butyl or phenyl, k is 2 and X is  $-OC(O)-$ .

29. (withdrawn; previously presented) The composition according to claim 25, wherein Ar is an unsubstituted aryl group,  $R^4$  is S,  $R^5$  is  $NHR^6$ ,  $R^6$  is hydrogen, methyl, allyl, butyl or phenyl, k and m are 1 and X is  $-OC(O)-$ .

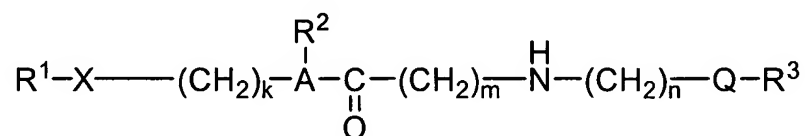
30. (withdrawn; currently amended) A method for increasing the transport of a biologically active compound across a biological membrane comprising:

administering a composition comprising a biologically active compound and a transport moiety, wherein the transport compound comprises a structure selected from the group consisting of  $(\text{ZYZ})_n\text{Z}$ ,  ~~$(\text{ZY})_n\text{Z}$~~ ,  $(\text{ZY})_m\text{Z}$ ,  $(\text{ZYY})_n\text{Z}$  and  $(\text{ZYYY})_n\text{Z}$ , wherein Z is L-arginine or D-arginine, and wherein Y is an amino acid that does not comprise an amidino or guanidino moiety, and wherein n is an integer ranging from 2 to 10 and m is an integer ranging from 3 to 10,

wherein transport of the biologically active compound across the biological membrane is increased relative to transport of the biologically active compound in the absence of said transport moiety.

31. (withdrawn; previously presented) The method according to claim 30, wherein the biologically active compound is attached to the transport moiety by a linking moiety to form a conjugate.

32. (withdrawn; previously presented) The method of claim 31, wherein the conjugate has the following structure:



wherein:

$\text{R}^1$  is the biologically active compound ;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $\text{R}^1$  and  $\text{R}^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between  $\text{R}^1$  and  $\text{R}^3$ ;

A is N or CH;

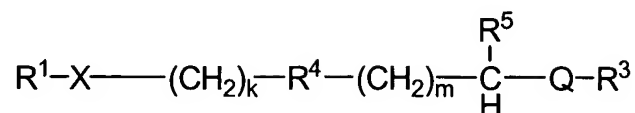
$\text{R}^2$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

$\text{R}^3$  is a transport moiety;

k and m are independently either 1 or 2; and

n is an integer of from 1 to 10.

33. (withdrawn; previously presented) The method of claim 31, wherein the conjugate has the following structure:



wherein:

$R^1$  is the biologically active compound ;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $R^1$  and  $R^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between  $R^1$  and  $R^3$ ;

$R^3$  is a transport moiety;

$R^4$  is S, O,  $NR^6$  or  $CR^7R^8$ ;

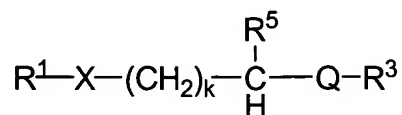
$R^5$  is OH, SH,  $NHR^6$ , or  $-CONH_2$ ;

$R^6$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

$R^7$  and  $R^8$  are independently hydrogen, alkyl or arylalkyl; and

k and m are independently either 1 or 2.

34. (withdrawn; previously presented) The method of claim 31, wherein the conjugate has the following structure:



wherein:

$R^1$  is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $R^1$  and  $R^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between  $R^1$  and  $R^3$ ;



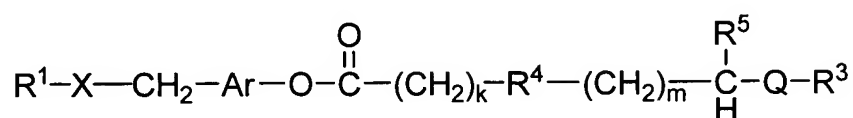
$R^3$  is the transport moiety;

$R^5$  is H, OH, SH,  $NHR^6$ , or  $-CONH_2$ ;

$R^6$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl; and

k is 1 or 2.

35. (withdrawn; previously presented) The method of claim 31, wherein the conjugate is of the following structure:



wherein:

$R^1$  is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between  $R^1$  and  $R^3$ ;

Q is a linkage between a functional group on the transport moiety and a functional group on the linker between  $R^1$  and  $R^3$ ;

Ar is a substituted or unsubstituted aryl group, wherein the methylene and oxygen substituents are either *ortho* or *para* to one another;

$R^3$  is the transport moiety;

$R^4$  is S, O,  $NR^6$  or  $CR^7R^8$ ;

$R^5$  is H, OH, SH,  $CONHR^6$  or  $NHR^6$ ;

$R^6$  is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

$R^7$  and  $R^8$  are independently hydrogen or alkyl; and,

k and m are independently either 1 or 2.